

STATE OF MISSOURI
ANNUAL RECYCLING REPORT
FISCAL YEAR 2008



Prepared By:
State of Missouri, Office of Administration

Acknowledgements

Published by the State of Missouri, Office of Administration, Division of Purchasing and Materials Management in consultation with the Department of Natural Resources' Solid Waste Management Program and the Environmental Improvement and Energy Resources Authority.

Special thanks to the Missouri Interagency Recycling Committee (MIRC), department recycling coordinators and purchasing staff who contributed to this report. The Missouri State Recycling Program also wants to thank all state employees for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.

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To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration in consultation with the Department of Natural Resources is submitting the Fiscal Year 2008 (FY08) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content procurement for the period of July 1, 2007 through June 30, 2008.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Coordinator works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

The Office of Administration is pleased to report that FY08 was a record year in terms of the amount of revenues generated from the collection of recyclable materials. Revenues have steadily increased over the past five years and there was a 70% increase in proceeds from FY07 to FY08 (see section on Missouri's State Recycling Fund). State government recycling efforts continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. On pages 11 – 15 of this year's report the achievements of several agencies in the area of recycling and waste reduction are summarized.

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

A handwritten signature in blue ink, reading "Larry W. Schepker", is written over a horizontal line.

Larry W. Schepker
Commissioner

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I. Missouri State Recycling Program Structure

What is the Missouri State Recycling Program?

The Missouri State Recycling Program (**MSRP**) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the **MSRP** is to assist State of Missouri government agencies with:

- **Procurement** of products manufactured with recycled materials.
- Coordinating **waste reduction** strategies.
- Overseeing the **collection** of recyclables by establishing recycling services contracts.

Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (**MIRC**) was established in 1994. It was recognized the **MSRP** needed a way to communicate procurement and recycling policies throughout state government. **MIRC** is a vital component of the **MSRP** and meets quarterly to discuss issues dealing with recycling collection, waste reduction, recycling market conditions and recycled product procurement.

Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member. A list of members is located on page 6.

Missouri Interagency Recycling Committee (MIRC) Members

Executive Departments	MIRC Member	Phone	Email
Office of Administration Div. of Purch. & Materials Mgmt. State Recycling Program	Rob Didriksen State Recycling Coordinator	573.751.3384	Robert.Didriksen@oa.mo.gov
Office of Administration	Vernon Morris	573.526.1136	Vernon.Morris@oa.mo.gov
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Dept. of Economic Development	Ron Doerhoff	573.751.3959	Ron.Doerhoff@psc.mo.gov
	Terry Doerhoff	573.522.9059	Terry.Doerhoff@ded.mo.gov
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	Janet Fitzwater	573.751.3501	Janet.Fitzwater@dese.mo.gov
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Office of the Secretary of State	Michael Shellman	573.751.2397	Michael.Shellman@sos.mo.gov
Office of the State Treasurer	Nancy Tennison	573.751.0912	Nancy.Tennison@treasurer.mo.gov
Judicial Branch			
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II. FY08 Overview: Collection of Recyclables

Local Recycling Services Contracts

In FY08, the Missouri State Recycling Program (MSRP) provided contract administration for two local recycling services contracts. Areas covered by these contracts included Jefferson City and Kansas City. These contracts provided state agencies an option to recycle office paper and cardboard at no cost.

Jefferson City

In FY08, the Jefferson City contract continued to offer recycling services for mixed office paper and cardboard (baled & loose). In addition, a new service was added to the contract that allows employees to recycle commingled beverage containers (aluminum cans, #1 & #2 plastic bottles).

The Jefferson City recycling services contract performed exceptionally well in FY08 as revenues increased 113% from the previous (FY07) fiscal year. The significant increase in revenues is attributable to a couple of factors. First, the paper recycling markets remained very strong throughout FY08. Secondly, in November, 2007, the Jefferson City contract was re-awarded with better pricing for mixed office paper.

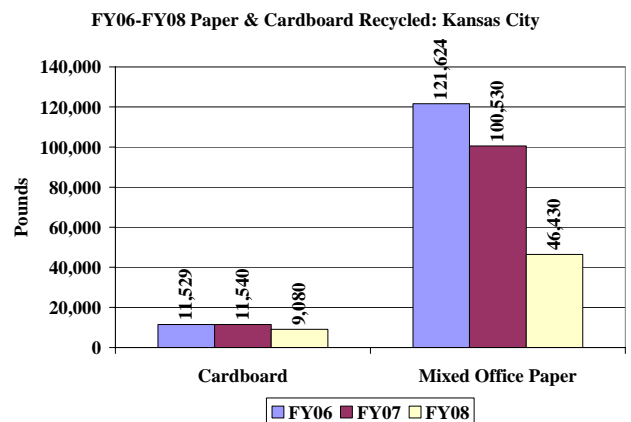
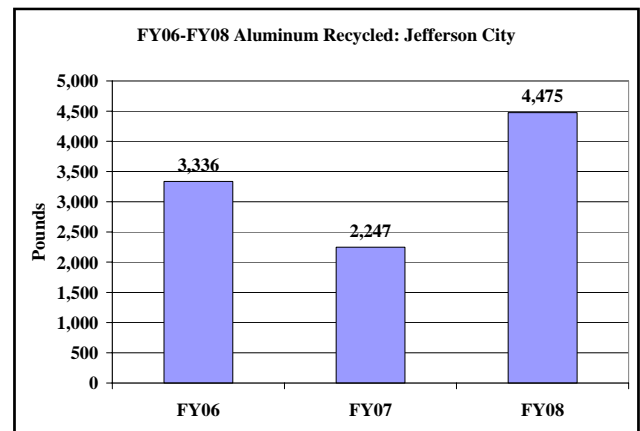
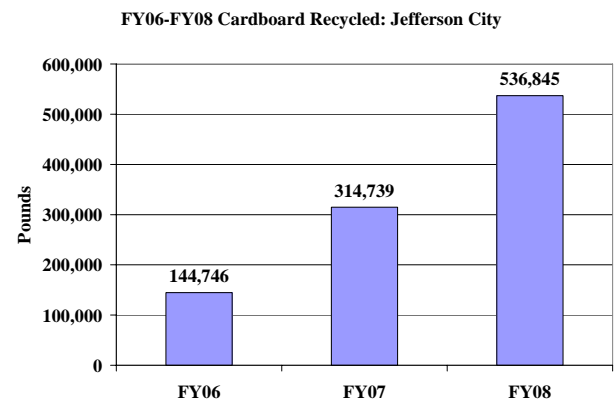
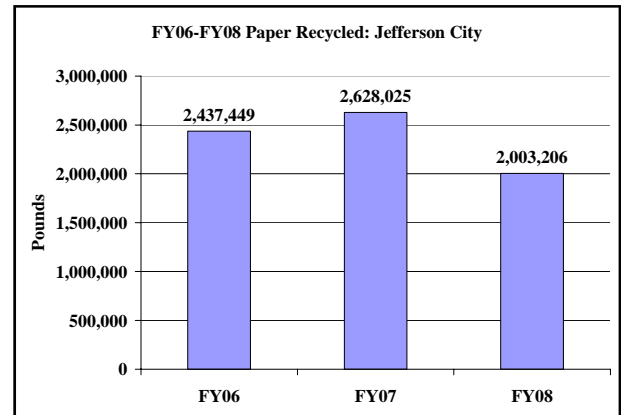
Another key component of the contract awarded in FY08 was a new recycling service. Starting in November, 2007, state agencies were allowed to recycle #1 and #2 type plastic bottles along with aluminum cans. The subcontractor — Kingdom Projects (a sheltered workshop) — provided this service and hauled commingled beverage containers to their recycling facility where cans and bottles were sorted for recycling. By the end of FY08, there were eleven buildings set up for commingled beverage container recycling. State agencies recycled 4,475 lbs. of aluminum cans and 3,906 lbs. of plastic bottles in FY08.

The contract also allowed for collection of loose cardboard. Six new containers were added to the loose cardboard collection route bringing the total number of locations in Jefferson City to thirty-eight.

Total cardboard collected in FY08—both baled and loose—amounted to an estimated 536,845 lbs. This figure translates into an average of over 10,000 lbs. per week that state employees recycled. This figure includes over 68,000 lbs. of baled cardboard collected from the Truman Building and Highway Patrol warehouse.

Kansas City

The Kansas City contract offered state agencies the option to recycle cardboard and mixed office paper at no cost. The amount of cardboard recycled dropped 21% from FY07 to FY08. Mixed office paper recycling dropped a staggering 54% from amounts collected in FY07. It is unclear why the amount of materials recycled experienced significant decreases. One way to address this decline would be through employee education and awareness of available recycling services.



Statewide Recycling Services

The Missouri State Recycling Program (MSRP) coordinated two no-cost statewide recycling services for state agencies in FY08. These convenient services allowed state employees to recycle inkjet cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based services for document destruction and lamp recycling.

Rechargeable Battery Recycling

FY08 marked the fourth year that this service has been available and state agencies recycled a total of 3,653 lbs. of rechargeable batteries. In the past four years, state government has recycled 17,852 lbs of rechargeable batteries. Six new locations were registered for rechargeable battery recycling in FY08 bringing the total number of statewide locations to eighty-four.

Shredding & Records Disposal Contract

This contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed for a fee. Cost varied depending on volume to be destroyed and/or location of state agency. The chart to the right shows how many pounds were shredded by agencies utilizing this contract in FY08. Use of this contract by state agencies was not mandatory; therefore, information reported here only represents a portion of the state's overall volume of records shredded.

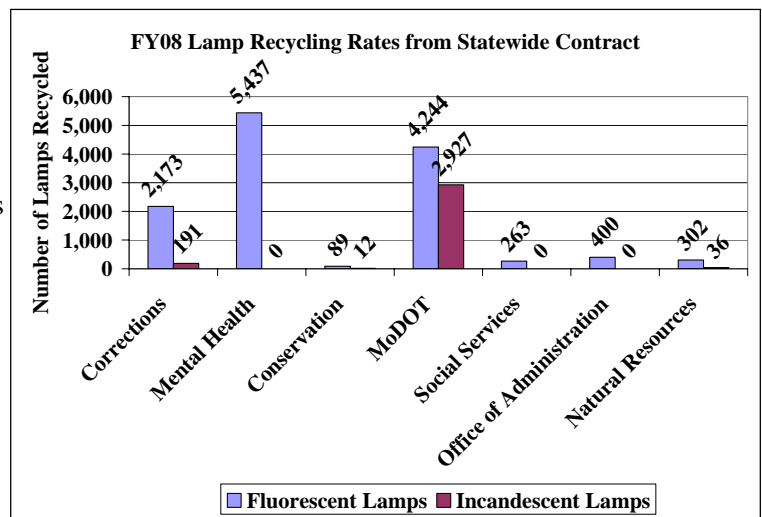
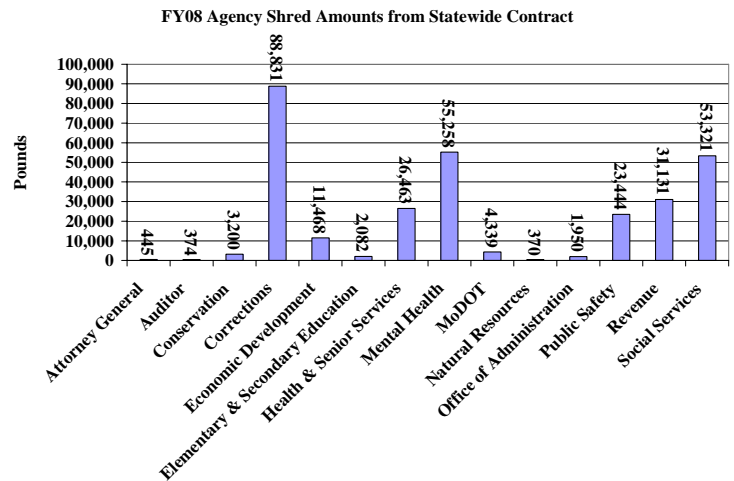
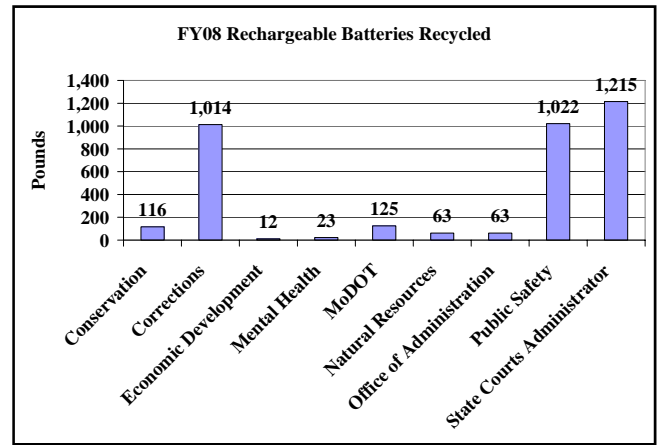
Lamp & Ballast Recycling Contract

This contract provided a way for agencies to recycle both fluorescent and incandescent lighting as well as related lighting equipment (i.e., ballasts). Agencies were also able to recycle non-rechargeable batteries through this contract.

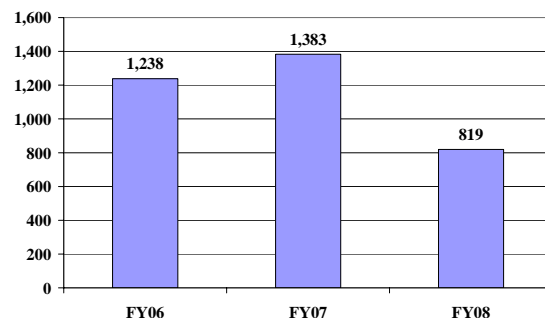
Fluorescent lamps tend to be recycled more frequently than incandescent lamps. This is due to the hazardous mercury vapors contained in fluorescent lighting.

Inkjet Cartridge Recycling

Fewer ink jet cartridges were recycled in FY08 than in FY07. This may be due to a change in recycling services where a private ink jet cartridge recycling service was replaced by an in-house service developed by the State Recycling Program. Another reason for a decline in ink jet cartridges recycled may be a result of more agencies printing in color with laser technology instead of ink jet equipment. Although the number of cartridges recycled decreased, the revenue generated from spent cartridges more than doubled — from \$885 (FY07) to \$2,255 (FY08).



FY06-FY08 Ink Jet Cartridges Recycled Statewide



FY08 Department Reports of Materials Recycled

Number of Pounds Recycled	Attorney General	Supreme Court	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Educ.	Health & Senior Services	Secretary of State	Insurance, Finan. Inst., Prof. Reg.	Office of State Courts Admin.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Social Services	Transportation	Aggregate Amounts from Contract and Surplus Property	Totals by Material
Aluminum	C	620	C	1,193	22,127	C	C	C	C	C	121	1,142	2,591	591	43,600	C	C		4,475	76,460
Balasts				92	507							689		756				125		2,169
Batteries-Non Recharge		72		95									30		517			27		741
Batteries-Recharge		11		161	825						116	143	67	32	2,538			153		4,046
Batteries-Lead Acid			500	20	479	12					1,677	200	342	773	9,343			20,016		33,362
Cardboard	C		C	4,350	801,303			C	C	C	C	80,200	12,862	29,294	127,500	C	C	2,775		1,604,209
Carpet Tiles														6,000						6,000
Electronic Scrap														1,458	312,000			209,000	34,160	556,618
Food-Yard Waste			350,000		1,214,600							5,000	5,730		6,000					1,581,330
Glass				50									6,536							6,586
Magazines & Catalogs				1,610								2,040	3,032		1,200					7,882
Media, Storage							47	70					123	7,076	20					7,336
Mercury Devices																		209		209
Mixed Office Paper	445			22,030	184,715	11,468	2,082	26,463	368,085	205		142,371	37,033	1,950	115,984	878,290	90,041	92,959		4,023,757
Newsprint				640	5,873							900	500							7,913
Plastic					28,910							4,399	148		5,200					
Rubber, Scrap Tires	C		C	715	C	C	C		C	C	C	260	C	C	C	C	C	10	3,906	43,548
Scrap Metal			1,275	2,380	1,126							2,220	60		86,380			1,470,586		1,564,027
Styrofoam			58,000	2,200	85,402						5,510	3,550	21,953	4,577	270,804			1,306,480		1,758,476
Telephone Books				2,300									6							2,306
Textiles				355								1,800	486		500					3,141
Tin / Steel Cans					57,608							450								58,058
Totals by Agency				95	303,859							2,608	283							306,845
	445	703	409,775	38,286	2,707,334	11,480	2,129	26,533	368,085	205	7,424	243,573	96,033	52,655	981,586	878,290	90,041	3,102,340	2,638,102	

Note on Boxes with 'C's: A "C" in a box on this table indicates that an agency recycled the designated item by utilizing the Jefferson City recycling services contract.

Note on "Aggregate Amounts from Contract and Surplus Property": Figures appearing in this column were reported by the Jefferson City recycling services vendor with the exception of "electronic scrap" which was provided by Surplus Property. Agencies that utilized a recycling contract, but do not appear in this table include: House of Representatives, Senate, Treasurer's Office, State Auditor's Office, State Tax Commission, Department of Labor & Industrial Relations, and the Department of Higher Education. See additional explanation at the top of p. 10.

Total Lbs. Recycled in FY08	11,655,019
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FY08 Department Reports of Materials Recycled (cont.)

Contractual Reporting / Summary Information for Table on Page 9

Total pounds recycled by agencies utilizing the Jefferson City and Kansas City recycling services contracts is summarized in the table to the right. These figures are reported as cumulative totals due to contract reporting. Data is reported by building and it is not feasible to break out data by agency where there are multiple agencies in the same building.

FY08 Recycling Contract Totals

	Jefferson City	Kansas City
Paper	2,003,206	46,430
Cardboard	536,845	9,080
Aluminum	4,475	n/a
Plastic	3,906	n/a

Number of Items and Gallons Recycled Table

Number of Items Recycled	Cell Phones	Fluorescent Lamps	Incandescent Lamps	Inkjet & Toner Cartridges	Fuel/Oil Filters	Pallets	Plastic Tanks	Tyvek Envelopes	Number of Gallons Recycled					
									Antifreeze	Diesel	Gasoline	Oil, Cooking	Oil, Motor	Paint
Attorney General				192										
Supreme Court	22			196										
Auditor's Office				16										
Elementary & Secondary Education				24										
Agriculture				5	70							900	210	
Conservation	26	269	162	186	106	50			130				3,550	
Corrections	34	3,173	214	3,186	150	2,915			145			19,500	1,417	
Economic Development				12										
Treasurer's Office				136										
Health & Senior Services				98										
Insurance, Financial Inst., Prof. Reg.				6										
Mental Health	10	5,437		645		714			55			2,351	1,647	
Natural Resources		514	36	621				250					158	
Office of Administration	106	400		10		1,831							3,000	
Public Safety	66	1,473		1,460	4,049	1,647			98			300	9,865	
Revenue				8										
Social Services		263		327										
Transportation	531	4,244	2,927	1,240	110	1,962	8,000		1,350				72,069	240
TOTALS	795	15,773	3,339	9,187	4,485	9,119	8,000	250	1,723	0	0	23,051	88,916	240

Note on Number of Ink Jet Cartridges: 819 ink jet cartridges were recycled by employees using a statewide service for this item. Vendor reporting for this item only provided a cumulative figure. This figure has been added to the total in the table above.

Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and then vote for an individual and/or an agency.

Awards are made based on accomplishments in the areas of recycling collection, waste reduction, and/or procurement of recycled-content products. The State Recycling Program encourages nominators to submit information that demonstrates the *value* of the nominee's recycling efforts. *Value* could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, environmental benefits, etc.

FY08 Annual Recycling Awards

Individual Award: Melanie Carden-Jessen, Missouri Department of Conservation, Twin Pines Conservation Education Center

Melanie Carden-Jessen is the Education Manager at Twin Pines Education Center and recycling is very much a part of the fabric of this facility. Many common household items are reused for craft projects or workshops hosted by Twin Pines. For instance, old PVC pipe is used to build bird houses. Items that are not reused are recycled through the city recycling program. Twin Pines even recycles food waste by using worms to compost food scraps. This is known as vermicomposting.

Melanie insures that Twin Pines is doing their part to "close the loop" and purchase recycled products too. For instance, snake cages use recycled newspaper pellets, pencils are made from recycled materials, and paper contains 30% post-consumer content.

Melanie has also developed an education program call "The Garbage Monster" that focuses on recycling as well as reading. Interpretive staff read the book "The Garbage Monster" and then rotate through various stations that all educate about recycling.

Agency Award: Missouri Department of Revenue

Over the past five years the Department of Revenue (DOR) has recycled over 3.6 million pounds of paper representing an average of 734,000 lbs. or 18 truckloads each year! DOR has taken an innovative approach with recycling due to the confidential nature of the records in their custody. Starting in FY04 DOR setup a contract for document destruction services. However, instead of paying for this service, DOR is actually paid about \$700 for each truckload. Over the past five years this has generated \$60,000 for the state's Recycling Fund.



L. to R. Becky Imhoff, Kim Lauer, George Wilson, Brenda Davis, Omar Davis, Governor Blunt, Jason Gilbert, Gary Burlingame, John Moss, Mike Monteer



L. to R. Jim Aslakson, Mike Jessen, Melanie Carden-Jessen, Governor Blunt, Tim Ripperger, Rob Didriksen, Jim Miluski

DOR ensures confidential information is not compromised by having their staff load pallets of confidential records onto a semi trailer and attach a cable sealed lock to the trailer. Security personnel at the paper mill inspect the trailer to make sure the seal is intact upon arrival and that the seal number matches that which is noted on the shipper's original bill of lading. The paper mill keeps the confidential records in a locked and secured location at all times prior to pulping and ultimately old tax forms and drivers records are manufactured into toilet paper and paper towels.

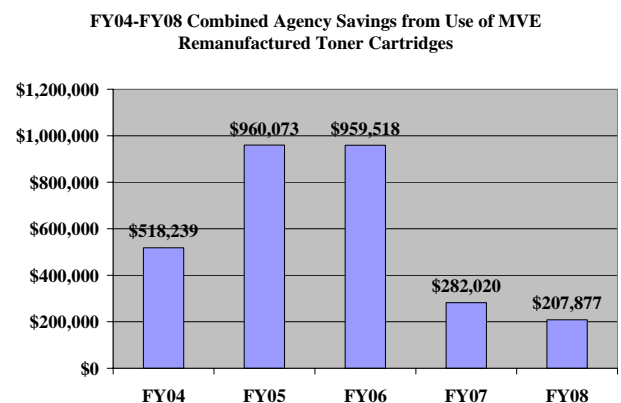
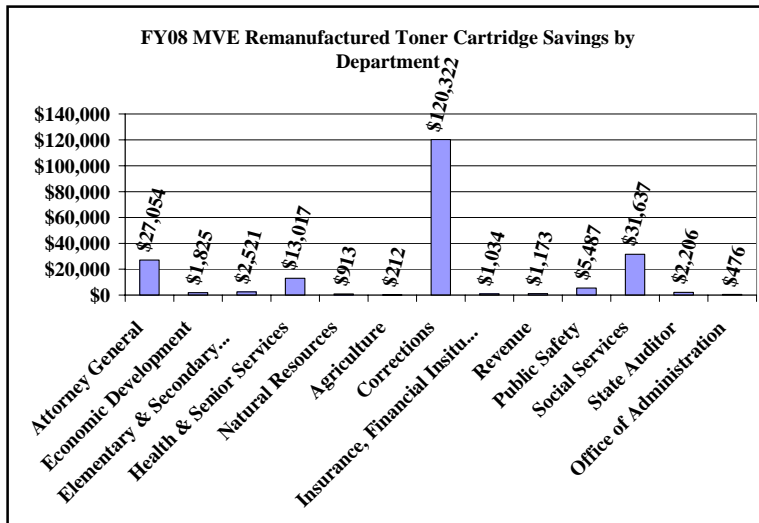
II. FY08 Overview: State Agency Waste Reduction / Recycling Accomplishments

Remanufactured Toner Cartridges: State Agency Savings

For over 10 years Missouri Vocational Enterprises has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The charts below illustrate individual agency savings in FY08 and combined agency savings over the past five years. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supplies contract. From FY04 -

FY08 state agencies saved over \$2.9 million dollars by utilizing MVE's toner cartridge remanufacturing service.



The Blue Book – Missouri's Official Manual – Is Actually Green

State law requires the Missouri Secretary of State to publish the "Official Manual" also known as the "Blue Book" every two years. The law further dictates that forty thousand copies of this manual shall be published. This translates into a lot of paper and the Secretary of State's office took steps to ensure the 2007 – 2008 Blue Book was printed on recycled paper.

The 2007 – 2008 Blue Book incorporated three different types of post-consumer recycled paper. Post-consumer recycled paper is manufactured from materials generated from residential and commercial waste. From an environmental standpoint, this type of recycled paper is preferable to pre-consumer recycled paper, which is paper that is recycled during the manufacturing process. The glossy pages of the Blue Book contained a minimum of 10% post-consumer content. The uncoated (non-glossy) paper contained a minimum of 40% post-consumer content and the hard cover of the book contained 100% post-consumer material. In addition, the Blue Book was printed with ink made from a combination of linseed (from flax seed) and soya (from soy beans), further promoting a more environmentally sustainable approach to publishing this book.

Environmental Savings from Recycled Paper

- ♻️ Saved 378 trees
- ♻️ Saved 64,698 kilowatt hours of electricity
- ♻️ Saved 110,460 gallons of water
- ♻️ Prevented 946 lbs. of air pollution

Source: www.recycledproducts.org/calculator.html

The 2007 – 2008 Blue Book consisted of 1,566 pages. This would be equivalent to 263 8.5 x 11 sheets of paper which means that approximately 10,520,000 8.5 x 11 sheets of paper were used to publish the most recent edition of the Blue Book. The box above provides the estimated environmental savings from using 30% post-consumer paper in the production of the Blue Book.

2008 RecycleMania: Colleges & Universities Compete

RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; the least amount of trash per capita; or have the highest recycling rate. Participating schools are required to report measurements on a weekly basis throughout the competition. The winning school of each competition receives a trophy such as the “Bowling Pin Guy Trophy”.



With over two-hundred colleges and universities competing in RecycleMania contests in 2008, Missouri schools (see standings below) performed very well in various competitions. Nine schools in Missouri competed this year, including Drury University (Springfield), Missouri State University (Springfield), Northwest Missouri State University (Maryville), Stephens College (Columbia), Truman State University (Kirksville), University of Central Missouri (Warrensburg), University of Missouri—Columbia, University of Missouri—Kansas City, and Washington University (St. Louis).

RecycleMania is supported by the U.S. Environmental Protection Agency’s Wastewise Program and the National Recycling Coalition (NRC), and is coordinated as a project of NRC’s College and University Recycling Council. The Coca-Cola Company is a major sponsor of RecycleMania.

Whole Campus Division Results

Per Capita Classic

Rank	School Name
1	Kalamazoo College
2	U.S. Coast Guard Academy
3	Truman State University
4	Rochester Institute of Technology
5	Medical University of South Carolina

Targeted Material – Cardboard

Rank	School Name
1	U.S. Coast Guard Academy
2	Kalamazoo College
3	Medical University of South Carolina
4	Virginia Military Institute
5	Truman State University

Targeted Material – Paper

Rank	School Name
1	Stephens College
2	Northwest Missouri State University
3	Medical University of South Carolina
4	U.S. Coast Guard Academy
5	Stanford University

Targeted Material – Bottles and Cans

Rank	School Name
1	Rhode Island School of Design
2	Kalamazoo College
3	Allegheny College
4	Connecticut College
5	Stephens College

Partial Campus Division Results

Targeted Material – Paper

Rank	School Name
1	California State University – San Marcos
2	University of San Diego
3	New Mexico State University
4	Missouri State University
5	University of Georgia

Targeted Material – Bottles and Cans

Rank	School Name
1	Oregon State University
2	Rutgers University
3	University of Oregon
4	Franklin Pierce College
5	Missouri State University

Recycling Rooftops into Roadways



The Missouri Department of Transportation is among the first state agencies in the nation to recycle tear-off shingles to resurface or rebuild highways.

Over the past two years, MoDOT has allowed contractors to put used shingles that have been removed from rooftops into their asphalt mix. The result is a very durable, more-rut resistant asphalt at a much lower price.

“MoDOT embraces new ideas that not only help us become a more cost-efficient agency, but a more environmentally friendly one, too,” said Director Pete Rahn. “By recycling asphalt shingles, we keep them out of landfills, preserve petroleum resources and lower our construction costs while maintaining high quality asphalt pavement.”

The use of recycled shingles saves \$3 to \$5 per ton of asphalt. That may not sound like much at first, but consider this: a typical resurfacing project would use about 30,000 tons of asphalt, for a savings of \$90,000 to \$150,000.

Beyond the cost savings, this practice also helps MoDOT in its efforts to be environmentally responsible. According to the Missouri Department of Natural Resources, an estimated 146,500 tons of roofing materials are disposed of in Missouri landfills each year. By reusing tear-off shingles, the department reduces the amount that ends up in landfills.

Shingle recycling also helps MoDOT reduce the amount of petroleum it uses in its road construction program. By using recycled asphalt shingles, the department reduces the amount of liquid asphalt in a mix design by 20 percent to 25 percent.

“MoDOT has incorporated a variety of waste materials on roadways,” said Joe Schroer, field materials engineer. “However, we are on the cutting edge nationally for our efforts to reuse roofing shingles.” MoDOT is working with other agencies and organizations nationally to refine the specifications for the use of asphalt shingles as a hot-mix asphalt material.

Office of Administration Recycles Carpet Tiles

In FY08, the State of Missouri was able to easily recycle carpet tile waste from remodeling projects at no cost due to the “Carpet America Recovery Effort” (CARE) that was initiated in 2002. “CARE is a joint industry-government effort to increase the amount of recycling and reuse of post-consumer carpet and reduce the amount of waste carpet going to landfills.” (www.carpetrecovery.org) The mission of CARE is to develop market based solutions for the recycling and reuse of post-consumer carpet. The Office of Administration worked with Interface FLOR Inc. – a CARE member - to have carpet tiles picked up for recycling.



The Office of Administration recycled approximately 6,000 pounds (six pallets) of carpet tiles in FY08. This is equivalent to 900 square yards of carpeting. The box below provides an estimate of the environmental savings from recycling this amount of carpet.

Carpet diverted from the landfill is used as a recycled material in a variety of products such as new carpet and automobile parts.

The Missouri State Recycling Program is proud to be a part of the recycling effort that resulted in nearly 300 million pounds of carpeting being recycled in the United States last year.



Estimated Environmental Savings from Carpet Recycling

-  396 gallons of oil
-  9,000,000 BTUs

Source: www.carpetrecovery.org

The Missouri Conservationist Magazine Becomes FSC Certified

Producing the Missouri Conservationist magazine for approximately 480,000 subscribers requires a lot of paper. Though trees are a renewable resource, the ways in which forests are managed and paper produced are significant conservation issues.

The Conservationist has been printed on 10 percent post-consumer content paper since 1989. This was a significant achievement for the time, as availability of quality recycled papers was low until the early 1990s, and 10 percent was then a high recycled content for the coated paper required for high-speed printing.






However, production processes and availability have since improved, and the Conservationist upgraded the post-consumer recycled content to 30 percent. The Missouri Conservationist has also acquired Forest Stewardship Certification for the paper used to publish this magazine.

The Forest Stewardship Council (FSC) is a nonprofit, international organization established in 1993 to “promote environmentally appropriate, socially beneficial, and economically viable management of the world’s forests.” The council accredits and monitors independent certification bodies who, in turn, certify forest management practices and the chain of custody for wood products. A product can only carry the FSC logo if its entire chain of production can be reliably traced from forest to shelf.

FSC certification means that the Conservation Department can ensure the paper used to print the magazine comes from responsibly managed forests where conservation values are employed.

While readers shouldn’t notice any visible difference when the paper is changed to a higher post-consumer content, according to the Environmental Defense Fund’s Paper Calculator (For more information visit www.papercalculator.org) there will be a significant change in the conservation of resources. Through use of 30

Estimated Environmental Savings by Printing Conservationist on Recycled Paper

-  3,545 less trees
-  2,453 million Btu less energy – enough energy to power 23 homes for a year.
-  1,292,337 gallons less water
-  213,830 pounds – reduction in solid waste
-  394,222 pounds – reduction in CO2 emissions

Source: www.papercalculator.org

What can readers of the Missouri Conservationist do to help?

Recycle your magazines. To find recycling centers near you, check out the Department of Natural Resources’ publication Recycling Drop-off Collection Services in Missouri Communities at www.dnr.mo.gov/env/swmp/rrr/RecycDoliststatewide.pdf, contact their Solid Waste Management Program at swmp@dnr.mo.gov, or call 800-361-4827.

Go paperless. Electronic copies of current and archived issues of the Conservationist may be found online at www.MissouriConservationist.org/conmag.

Update your subscription information. Notify the Conservationist’s Circulation office if you are receiving duplicate copies of the magazine, or your address changes due to a move or 911 regulations. Circulation staff can be reached at 573-522-4115 ext. 3856, or by e-mail at subscriptions@mdc.mo.gov.

percent post-consumer content paper as compared to the previously used 10 percent paper, the publishers of the Missouri Conservationist are using fewer resources.

State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **5,828** tons (see chart on p. 9) of materials recycled in FY08. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$223,737** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri’s landfills. The average tipping fee in Missouri in FY08 was \$38.39 per ton. The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate. The actual cost avoidance realized by state agencies in FY08 would likely be significantly higher.


FY08 Overview: Recycled Content Procurement

Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as “closing the loop”. Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency’s (EPA) “**Comprehensive Procurement Guidelines (CPG)**” for recycled content products as a roadmap for the State of Missouri to continue working towards “closing the loop”.

Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product







There are 8 categories designated in the CPG. Product categories and individual items in these categories are listed below. **Products identified by the recycling symbol  also appear in the Missouri Recycled Products Directory** published by the Environmental Improvement and Resources Authority’s Market Development Program. This publication is a good resource for locating recycled products manufactured and distributed in Missouri. Additional information about this directory may be found in the “Recycling Resources” section on p. 21 of this report.

Product Fact Sheets may be found for each of these categories on the internet at the following address:

<http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm>

Comprehensive Procurement Guidelines: Recycled Product Categories




1. Construction Products

-  **Building Insulation**
 - Carpet (polyester)
 - Carpet Cushion
 - Laminated Paperboard
-  **Cement & Concrete Containing**
 - **Coal fly ash**
 - Furnace slag
 - Ground granulated blast
 - Cenospheres
 - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
-  **Patio Blocks**
 - Railroad Grade Crossing Surfaces
-  **Roofing Materials**
-  **Shower & Restroom Dividers/Partitions**
-  **Structural Fiberboard**




2. Landscaping Products

-  **Compost Made from Yard Trimmings or Food Waste**
 - Garden & Soaker Hoses
-  **Hydraulic Mulch**
 - Lawn & Garden Edging
-  **Plastic Lumber Landscaping Timbers & Posts**

3. Park & Recreation Products

-  **Park Benches & Picnic Tables**
-  **Plastic Fencing**
-  **Playground Equipment**
-  **Playground Surfaces**
 - Running Tracks

4. Paper Products

-  **Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)**
 - Miscellaneous Papers
 - Newsprint
-  **Paperboard & Packaging Products**
-  **Printing & Writing Papers**

5. Nonpaper Office Products

-  **Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders**
-  **Office Furniture**
-  **Office Recycling Containers**
-  **Office Waste Receptacles**
 - Plastic Desktop Accessories
 - Plastic Envelopes
 - Plastic Trashbags
-  **Printer Ribbons**
-  **Toner Cartridges**




6. Vehicular Products

- Engine Coolants
- Rebuilt Vehicular Parts
- Re-Refined Lubricating Oils
- Retread Tires

7. Transportation Products

- Channelizers
- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

8. Miscellaneous Products

-  **Awards & Plaques**
 - Bike Racks
 - Blasting Grit
 - Industrial Drums
 - Manual-Grade Strapping
-  **Mats**
-  **Pallets**
 - Signage
 - Sorbents






State Agencies Close the Loop with Paper Procurement

Paper is the most common recycled product purchased by state agencies. In 1990, RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials. One goal was that 60% of paper products purchased by the State of Missouri contain post-consumer materials by the year 2000. This goal was barely missed in FY08 as 54% of the overall paper purchased contained recycled content.

FY08 Purchases of Recycled Paper Compared to Virgin Paper						
Product Category	Recycled Paper Purchases	Total Category Purchases (Recycled + Virgin)	Recycled Paper Purchases as a % of Total Purchases in Product Category	Recycled Paper Purchases as a % of Total Purchases in Product Category		
	FY08	FY08	FY08	FY07	FY06	FY05
Fine Paper Products (office, copy, fax)	\$1,334,680	\$3,682,691	36%	36%	57%	22%
Course Paper Products (napkins, towels, tissues)	\$2,500,527	\$3,016,578	83%	63%	96%	83%
Forms (continuous & snap out)	\$171,089	\$179,649	95%	60%	23%	43%
Envelopes (Plain or Printed)	\$577,933	\$828,356	70%	68%	87%	88%
Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)	\$508,284	\$1,777,823	29%	22%	50%	35%
Overall Totals	\$5,092,513	\$9,485,097	54%	45%	62%	41%

Environmental Benefits of Buying Recycled Paper

The State of MO spent \$1,334,680 on recycled "Fine Paper Products" in FY08. A majority of this paper is printer/copier paper made with 30% post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

	8,901 trees
	2,596,177 gallons of water
	22,252 lbs. of air pollution
	1,520,618 kw/hours of electricity
	5.29 billion Btu – enough energy to power 50 homes in Missouri for a year!

Source: www.recycledproducts.org/calculator.html

FY08 Department Reports for Recycled Content Product Procurement

Non-Paper Recycled Content Procurement (All Figures Reported in Dollars)	Attorney General	Auditor's Office	Treasurer's Office	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Education	Health & Senior Services	Higher Education	Insurance, Financial Inst., Prof. Reg.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Secretary of State	Social Services	Transportation	TOTALS
Ammunition-Lead & Brass															90,563					\$90,563
Antifreeze																			2,086	\$2,086
Asphalt Products																			14,787,307	\$14,787,307
Batteries-Rechargeable						17,984							150		3,790				15,000	\$36,924
Building-Construction															2,906					\$2,906
Cardboard Boxes			1,656			203,971	202	326	17		65	25,401		503	4,930	13,037	27,767		2,514	\$280,389
Carpet																			54,076	\$54,076
Glass Beads																			3,831,284	\$3,831,284
Ink & Toner Cartridges	27,998	2,354				136,451	1,330	2,709	10,392		630	2,272	1,464	447	3,304	495		31,940		\$222,109
Janitorial Supplies					2,700	140,129	30	16,769	58			16,462		487	24,272				1,059	\$201,966
Lumber, Plastic															56,550					\$56,550
Metal Products						53,717	552	4,904	3,083	217	1,818	1,158			13,962					\$79,411
Office Supplies			5,521	85		358						2,392	5,101		2,376					\$561,540
Particle Board						72,041														\$72,041
Playground Supplies													68,577							\$68,577
Promotional Items													14,026		266					\$14,292
Remanufactured Furniture						MVE 48,855														\$48,855
Re-refined Oil																			15,300	\$15,300
Signs, Refurbished Aluminum															500				3,120,000	\$3,120,500
Tires, Retread																			100,277	\$100,277
Vehicle Maintenance Supplies						24,149														\$24,149
Total Dollars Spent on Recycled-Content Products in FY08.																				\$23,671,102

Note on Office Supplies: The total appearing for Office Supply Products includes agency purchases of \$545,707. This information was supplied by the contractor.

Note on MVE reported figure for Remanufactured Furniture: The total appearing under MVE for Remanufactured Furniture represents cumulative agency purchases of this product.

See p. 21 for additional information on recycled content products provided by MVE.

II. FY08 Overview: Missouri's State Recycling Fund

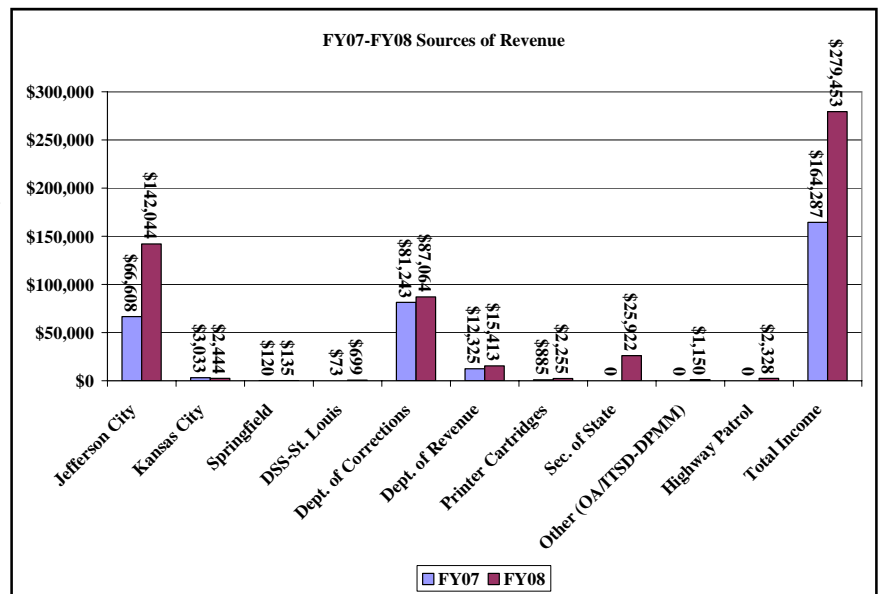
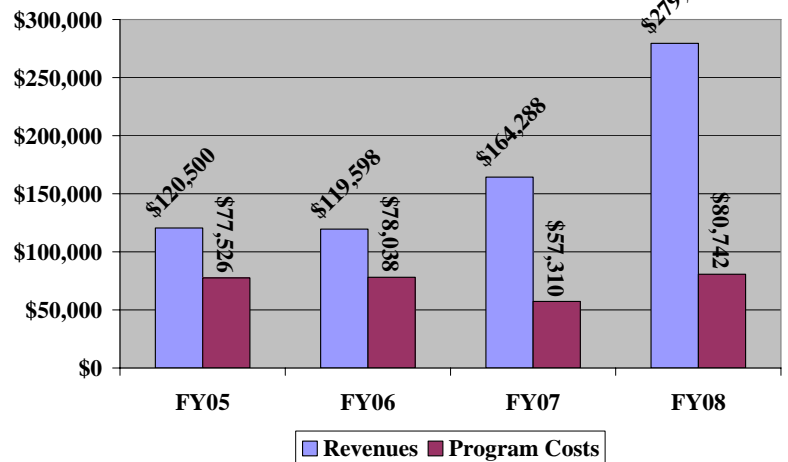
Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

The chart to the right illustrates the significant financial growth due to state employee recycling efforts over the past four years. From FY07 to FY08 there was a 70% increase in revenues generated from recycling. Increased revenue has allowed the Missouri State Recycling Program (MSRP) to not only cover the costs of established programs, but also to purchase equipment for new recycling initiatives.

In FY08, the MSRP distributed over 2,300 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded mixed office paper. In addition, over 1,100 recycling containers were provided to state agencies in FY08. A majority of these are being used for mixed office paper and the balance of containers is used for aluminum can and plastic bottle recycling. Other significant purchases made with monies from the State Recycling Fund included containers for the Department of Revenue's paper recycling program, baler supplies, and maintenance for in-vessel composters located at Ozark Correctional Center and South Central Correctional Center.

The top three sources of revenue in FY08 were the Jefferson City recycling contract (51%), Department of Corrections (31%), and Secretary of State (9%). (see chart above, right). The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.

Recycling Fund Summary: Fiscal Year 2005 - 2008

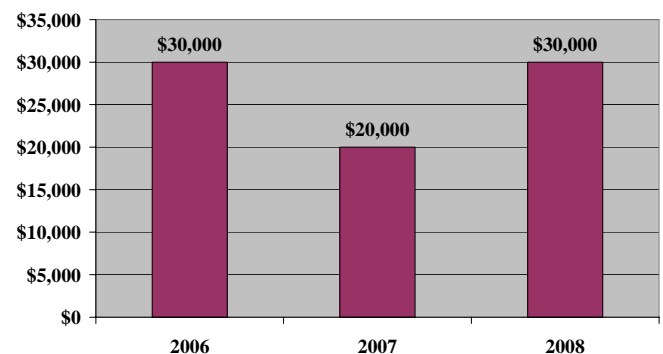


Contributions to the Heating Assistance Program (Utilicare)

Fiscal Year 2006-2008 Recycling Monies Transferred to the Heating Assistance Program

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of **\$215,000** to the HAP since 1995.

As a result of state employee recycling efforts, the MSRP was able to make a **\$30,000** contribution to the HAP in FY08. The \$30,000 transferred to the HAP in FY08 will help approximately 150 households in Missouri to pay their heating bills.



III. State Recycling Program Goals

FY08 Goals

Goal: Increase the number of state buildings in Jefferson City that recycle beverage containers (aluminum cans, #1 plastic, and #2 plastic) by ten and the number of buildings that recycle cardboard by five.



Result: In November, 2007 the Jefferson City recycling services contract was rebid and a new service was added. The new service allowed state agencies to commingle #1 & #2 plastic bottles with aluminum cans. The old contract only allowed for aluminum can recycling. By the end of FY08 there were eleven buildings set up for commingled beverage container recycling (see p. 7).

The new contract awarded in FY08 continued the free service for loose cardboard collection. MO Vocational Enterprises refurbished six containers which were added to the loose cardboard collection route bringing the total number of cardboard containers to thirty-eight. It is estimated that state employees in Jefferson City recycle 10,000 lbs. of cardboard each week (see p. 7).

Goal: Establish a recycling services contract for state agencies in the St. Louis area to recycle common office waste products such as paper and cardboard. Specific goals of the contract — no cost to state agencies, payment for recyclable materials, and at a minimum, all buildings owned by the state and managed by the Office of Administration will be serviced by the recycling vendor.

Result: A recycling services contract was not established for state agencies in the St. Louis area in FY08. A request for proposal (RFP) was drafted for such a contract; however, due to a significant drop in the recycling markets in the fall of 2008 a St. Louis recycling services RFP is on hold until there is more stability in the markets.

FY09 Goals

-  Continue working with State Surplus Property to formalize use of the Purchasing Committee listserv as a tool to facilitate disposal of surplus property. A key outcome will be the publication of a flow chart describing the surplus property process and in particular how the listserv fits into this process.
-  Work with the Environmental Improvement and Energy Resources Authority's Market Development Program and the Department of Economic Development to educate state agencies about buying recycled. Key education components will include cost savings on products as well as the economic and environmental impacts of buying recycled products. Target audiences will include the State Purchasing Committee and attendees of procurement conferences.

IV. Recycling Resources

Missouri Department of Natural Resources Solid Waste Management Program

Internet: <http://www.dnr.mo.gov/env/swmp/index.html>

Email: swmp@dnr.mo.gov

Phone: **800-361-4827** or **573-751-5401**

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

Office of Administration Division of Purchasing & Materials Management Missouri State Recycling Program

Internet: <http://www.oa.mo.gov/purch/recypro.html>

Email: recycling@oa.mo.gov

Phone: **573-751-2387**

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

Missouri Department of Natural Resources Environmental Improvement and Energy Resources Authority / Market Development Program

Internet: <http://www.dnr.mo.gov/eiera/mo-market-dev-program.htm>

Email: eiera@dnr.mo.gov

Phone: **573-751-4919**

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at <http://www.dnr.mo.gov/eiera/2008RecycledProductsDirectory.doc>

Missouri Department of Corrections Missouri Vocational Enterprises (MVE)

Internet: <http://www.doc.missouri.gov/mve>

Phone: **800-392-8486** or **573-751-6663**

The Department of Corrections vocational training program offers the following products and services that meet “buy recycled” criteria. MVE products and services are only available to state agencies and other tax-supported entities.

MVE Recycling/Remanufacturing/ Refurbishing Services

- Tire Recycling Service
573-635-3825
- Toner Cartridge Refill Service
573-751-3224 ext. 1260
- Office Panel (cubicle) Refurbishing Service
573-751-6663 or **800-392-8486**

MVE Recycled-Content Products

- Cardboard boxes: 60% post-consumer content
- Plastic bags: 30% recycled material
- Metal products: 25–35% post-consumer content
- Toilet paper: 60% recycled material
- Envelopes: 30% post-consumer content